

Statewide Aquatic Invasive Species Emergency Response Plan

Executive Summary

Introduction

1. Purpose

In the event that quagga mussels (*Dreissena rostriformis bugensis*) or zebra mussels (*Dreissena polymorpha*) are detected in any waterbody within the state of Utah, quick and decisive action will be necessary to contain them at that location and prevent their spread to other water bodies. This Emergency Response Plan is intended to serve as a general guide for directing containment efforts after an initial detection of dreissenid mussels within a waterbody in Utah. Containment efforts include both internal and external notifications, public outreach and education, watercraft inspection operations, and biological sampling and monitoring.

Aquatic invasive species (AIS) prevention efforts in Utah are led by the Utah Division of Wildlife Resources (DWR) and largely focus on preventing the spread of invasive dreissenid mussels (i.e., quagga and zebra mussels) to waterbodies in the state. The DWR's AIS Program consists of an early detection monitoring program and a watercraft inspection program. Early detection monitoring efforts include (1) the collection of plankton samples at Utah waterbodies during the summer months and microscopic and DNA testing of those samples for larval mussels (veligers), (2) the deployment of artificial substrate samplers off of docks, buoys, and other structures to document the presence of any adult mussels in a waterbody, (3) the inspection of docks and other structures retrieved from the water for any attached mussels, and (4) the use of SCUBA divers to inspect submerged areas and structures for attached mussels. Early detection monitoring results determine the approach and goal of watercraft inspection operations used at each waterbody. At those waters where no evidence of mussels is found, watercraft inspections are performed on watercraft arriving to launch at those waters. This strategy is referred to as *prevention*, as the goal is to prevent all new potential introductions of invasive mussels. At waters like Lake Powell where mussels are suspected or documented, a *containment* approach is used, wherein watercraft inspections are performed on watercraft retrieved from the water before their departure to other locations. The goal of a *containment* strategy is to contain the mussel infestation or suspected mussel population to where it already exists. This Emergency Response Plan will guide efforts to transition from a *prevention* strategy to a *containment* strategy after a mussel detection at a Utah waterbody.

A response to a dreissenid mussel detection at any Utah waterbody will require a high level of coordination and collaboration between multiple agencies and entities. Rapid response scenarios after quagga mussel detections at both Lake Powell and Deer Creek Reservoir have illustrated the importance of having a detailed plan, including a list of relevant stakeholders, for reference

prior to a detection. Depending on the waterbody, both state and federal agencies may be involved, as well as local water districts, local landowners, municipalities, local businesses, and others. This plan is intended to be implemented quickly and act as the guiding document for initial decision making when dreissenid mussels have been confirmed. The plan is developed around the following nine objectives:

1. Activate the Rapid Response Plan (RRP) and “Response Team”
2. Define the extent of colonization
3. Evaluate the feasibility of potential control options
4. Determine appropriate response actions regarding access, closures, decontamination requirements, etc.
5. Obtain and organize resources, including compliance with laws and permits
6. Establish external communication systems
7. Activate the Interdiction Strategy and any appropriate control actions
8. Institute long-term monitoring
9. Adaptive management – evaluate the RRP and Control Plan and modify as necessary

These objectives serve as a road map to navigating the complexities of a concerted response to a dreissenid mussel detection and will lead to faster and more efficient implementation of a longer-term control plan. The DWR recognizes that many Utah waters contribute important economic benefits to local communities, and in the event that dreissenid mussels are confirmed at a Utah water, the DWR will work in conjunction with relevant stakeholders to implement this plan with the goal of effectively containing the spread of dreissenid mussels while also making efforts to allow for continued recreational use of the waterbody.

2. General Authority

The Utah Division of Wildlife Resources (DWR) is entrusted with the responsibility to manage and protect Utah’s natural resources. This responsibility includes the prevention and containment of invasive species. The Utah State Legislature and Utah Wildlife Board have created code and administrative rule granting that authority to the DWR regarding dreissenid mussels. This authority includes, but is not limited to, the ability to create and operate Aquatic Invasive Species mandatory inspection stations and the authority to require that all watercraft drain plugs be removed while in transit. The Division may also conduct Administrative Checkpoints for AIS.

- a. *Utah Code Annotated, known as Aquatic Invasive Species Interdiction Act, 23-27-201 to 401. See Appendix III.*
- b. *Utah Administrative Code, known as Aquatic Invasive Species Interdiction R657-60-1 to 13. See Appendix IV.*

3. General Terms, Definitions, and Considerations

The DWR established its AIS Program in 2007, after the first finding of adult quagga mussels in the western United States at Lake Mead. Quagga and zebra mussels are invasive bivalve mollusks that can significantly impact ecosystems, damage water infrastructure, negatively affect recreational opportunities, and cost tens of millions of dollars to control and mitigate. The invasive mussels are largely spread through the transport of recreational watercraft and equipment from infested waters to uninfested waters and can proliferate rapidly due to their reproductive ability. Once established in a waterbody, particularly in those the size of many of the reservoirs in Utah, they are nearly impossible to eradicate. The DWR's AIS Program has largely revolved around the inspection and decontamination of watercraft entering the state and launching at Utah's waterbodies. The DWR, working with partners like the Utah Division of Parks & Recreation and the National Park Service, inspects boats at 35 locations around the state. Most of these locations are at individual reservoir launch ramps. However, one of the most important locations is the I-15 Port of Entry Station near St. George, where watercraft entering the state from the infested Lower Colorado River region are interdicted and inspected. The DWR's watercraft inspection program relies heavily on operations at Lake Powell, the only mussel-affected waterbody in Utah, where boats are inspected upon exit to ensure they are not transporting contaminated water nor attached mussels away from the immediate area. Boats arriving for launch at other locations are inspected prior to launch to ensure that they have not been used at a mussel-affected waterbody within the last 30 days, or if they have, that they have met the decontamination requirements before being allowed to launch. Decontamination requirements can be met by one of two methods: (1) meeting a dry time that varies by the season and boat type, or (2) receiving a professional hot water decontamination from a DWR-approved party. All inspection and decontamination records are entered into a regional Watercraft Inspection and Decontamination (WID) database used by most of the western states, allowing for these records to be accessed by inspectors at all locations to verify where a boat was last used, when it was last inspected, and whether a decontamination was performed. Watercraft inspection and decontamination protocols used by the DWR have been agreed upon by members of the Western Regional Panel on Aquatic Nuisance Species (WRP), which consists of state and federal natural resource agencies involved in AIS management in the West.

The DWR conducts early detection sampling for invasive mussels at all major lakes and reservoirs in Utah monthly, from May through September, as water temperatures dictate ($>10^{\circ}\text{C}$). Early detection sampling focuses on the earliest life stage of mussels in which larval mussels float in the water column and can be sampled through the passing of a plankton net through the water column. Plankton samples are collected and then shipped to a Bureau of Reclamation lab in Denver for analysis under a microscope using cross-polarized light. If suspected mussels are found using this method, additional DNA and genetic testing is performed to confirm the finding. If both microscopy and genetic DNA testing confirm the presence of quagga or zebra mussels, the samples are sent to a second independent laboratory for

verification. If the second lab verifies the results, the minimum criteria for detection have been met, resulting in a *Suspect* classification of that waterbody (see below for classification definitions).

DWR utilizes a waterbody classification system that WRP's *Building Consensus in the West Workgroup* developed related to sampling for quagga and zebra mussels:

- *Not sampled* -- waters that have not been monitored
- *Undetected/Negative* -- sampling/testing is ongoing and nothing has been detected
- *Inconclusive (temporary status)* -- waterbody has not met the minimum criteria for detection
- *Suspect* -- waterbody has met the minimum criteria for detection; this triggers management action, including the implementation of watercraft exit inspections and decontamination requirements
- *Positive/Detected* -- a minimum of one subsequent sampling event that meets the minimum criteria for detection. Positive must include the initial detection plus at least one subsequent detection for a total of two verified detections
- *Infested* -- a waterbody that has an established (recruiting or reproducing) population of invasive mussels

The designations of *Suspect*, *Positive/Detected*, and *Infested* are defined within Utah Administrative Rule R657-60. This statewide Emergency Response Plan is meant to guide management actions after the minimum criteria for detection have been met. The plan is general in scope and intended to also guide future development of reservoir or watershed-specific rapid response plans that include more detailed information regarding potential recreational closures, the establishment of new watercraft inspection and decontamination stations, the notification lists for sample results and the formation of Rapid Response Teams, and finally, the financial resources, including personnel, that would be required to implement exit watercraft inspection operations. Because of the greater detail within these waterbody-specific plans, these plans will always supersede this general statewide plan when they exist.

4. Rapid Response Plan Implementation

Objective 1: Upon laboratory confirmation of the presence of invasive dreissenid mussels at a “Suspect” level of detection or greater, activate the Rapid Response Plan (RRP) and “Response Team” comprised of relevant local natural resource personnel.

Purpose: Activate a response management system that expedites interagency decision-making, promotes information sharing, ensures efficient resource management, and supports on-scene management of dreissenid mussels.

The DWR AIS Coordinator and AIS Operations Lieutenant will work together to determine the most appropriate person to serve as the Response Team leader and will identify the appropriate Response Team members, convene Response Team meetings, and facilitate the decision-making process.

Response Team members will vary based on the waterbody in which the detection occurs, but will typically be comprised of technical personnel representing the DWR and any other agencies/entities involved in water management, land ownership, recreational management, county and municipal leadership, and other direct stakeholders. Responsibilities for communication by each response team member would also be identified based on location and situation.

Once the presence of dreissenid mussels has been confirmed at a *Suspect* level of detection or greater, the DWR AIS Coordinator will inform the DWR Director's Office, the Department of Natural Resources' Executive Director's Office, the Division of Parks & Recreation's Director's Office, and the Governor's Office. Those entities that are directly impacted by an invasive mussel detection and/or entities with jurisdiction at that location (water districts, municipalities, federal agencies, state agencies, Tribes, power companies, local law enforcement, the statewide AIS Task Force, and state legislators) will be notified upon authorization by and with the direction from the DWR Director. The DWR Director has the authority to list a Utah waterbody as *Suspect* or *Positive*. Action by the Utah Wildlife Board is required to list any Utah water as *Infested* with dreissenid mussels under Rule R657-60.

Objective 2: Define extent of infestation (48-72 hours after initial detection is confirmed)

Purpose: Conduct additional sampling to determine distribution and abundance of dreissenid mussels and establish long-term evaluation efforts as funding allows. If detectable, establish the physical range of dreissenid mussels, and identify the life-cycle phase of mussels to inform policy and tactical response.

Upon lab confirmation that evidence of mussel presence has been found, the DWR AIS Coordinator will lead and coordinate efforts to conduct additional sampling in an attempt to determine the extent of colonization. Initial efforts will include the collection of plankton samples in areas located immediately around the detection site. Plankton sampling will be expanded outward as necessary, depending on water levels and site conditions. The number of plankton samples collected will vary depending on reservoir size, but will generally be between 10 and 20 samples. Teams of SCUBA divers will also be deployed around marina areas and other access points to survey underwater infrastructure for any attached juvenile or adult

mussels. A remotely-operated vehicle (ROV) may be used to survey other submerged areas that are largely inaccessible to divers. Any existing artificial substrate samplers deployed in the water column will be checked by DWR AIS Program staff for attached mussels, and consideration will be given to the deployment of additional substrate samplers off of available docks and buoys.

Plankton samples will be collected according to the protocol outlined in *Utah Division of Wildlife Resources Aquatic Invasive Species Dreissenid Sampling Protocols* (2020) and sent to the Bureau of Reclamation lab in Denver for initial testing. If mussels are detected, the sample will be sent to the Pisces Molecular lab in Denver for verification by a second lab. All samples will be shipped overnight to allow for lab testing as soon as possible.

The Response Team will develop and implement a long-term monitoring plan based on waterbody classification level, with all sampling records disseminated to all entities represented on the Response Team through an easily accessible, consolidated, and coordinated real-time dataset.

Results from this immediate sampling effort will guide subsequent strategies in this plan related to watercraft interdiction operations and possible control/eradication efforts. In the event that a mixed age class, reproducing population is detected, the DWR Director will notify the Wildlife Board of the finding and request the designation of *Infested*.

Objective 3: Evaluate the feasibility of potential control options (within one week of initial detection)

Purpose: Evaluate potential control and eradication options based on extent of mussel distribution within the waterbody, including any associated environmental compliance requirements.

Determine appropriate method(s): The DWR AIS Coordinator will convene a panel of scientific researchers to evaluate potential control options, such as molluscicides. Panel participants would likely include personnel from the BOR's Technical Service Center, water district managers, chemical product representatives and research staff, municipal water scientists, staff from the Utah Division of Water Resources and the Department of Environmental Quality, and others. Evaluation will include consideration of criteria such as the likelihood of success, the number of required applications and duration of applications, the total cost of treatment, the potential for impacts to non-target organisms, potential impacts to water quality and drinking water, the required permits needed for application, and other factors.

If the panel recommends the application of a molluscicide or other chemical as part of an eradication or control attempt, the DWR AIS Coordinator, with assistance from the Response

Team, will estimate the cost of the proposed effort and develop a plan for post-treatment monitoring to determine whether the effort was successful. The Response Team will also consult with the appropriate agencies regarding necessary environmental compliance to implement proposed control treatments and prepare an environmental assessment and/or environmental impact statement as needed, including posting the document for public comment and notification. Lastly, the Response Team will work with outreach and communications staff from the agencies represented in the Response Team to develop appropriate and consistent messaging material regarding the control efforts for public dissemination.

Objective 4: Determine appropriate response actions regarding access, closures, decontamination requirements, etc.

Purpose: Determine the operational resource needs that assist in implementing the Control plan.

The DWR AIS Operations Lieutenant will work with appropriate Response Team members to begin reviewing all pertinent documents regarding current agreements, permits, Memoranda of Agreement, and Memoranda of Understanding that are in place regarding the waterbody. Concurrently the evaluation of response actions, access, and decontamination requirements will be done.

The evaluation of access to the waterbody along roadways will take into consideration the main access points and natural points to set up administrative checkpoints or inspection stations that will provide for maximum risk mitigation. The establishment of appropriate administrative checkpoints will be signed by the magistrate. Watercraft movement data will be analyzed to determine the potential need for a localized boater program as a long-term solution. At waterbodies where a large percentage of visiting boats rarely leave the immediate area or are infrequently used at other waters, local boater programs can help reduce the need to inspect these boats upon exit. As a result, resources can be better directed at boats leaving the area that pose a risk to other waters. In addition, local boater programs have shown to be an effective way to maintain public support for watercraft inspection programs.

To determine the decontamination requirements needed, all equipment currently available at the location will be compiled to a central location. The internet connection at all proposed watercraft inspection sites will be tested to ensure adequate speed and bandwidth for real time documentation of inspections and decontaminations in the regional WID database. When needed and wherever possible, additional equipment to increase internet connectivity will be secured.

The determination on whether to temporarily restrict public access to the reservoir or to specific access points will be made after considering a number of factors, including but not limited to: the

number of launch ramps; ease of access; hand launch capabilities; beach access; the types of boats and numbers of boats accessing the waterbody at each access point, the use history of boats used at that waterbody, and the waterbody classification (*Suspect, Positive/Detected, Infested*). Response team members will decide on appropriate signage, sign locations, and other outreach needs to inform the public of the duration of restrictions, changes to access, and any new process for decontamination. The Response Team will confer with the DWR Outreach Section and other public information staff from response team member entities.

If sampling conducted under Objective 2 indicates an *Infested* status, the DWR will prepare a presentation to the Utah Wildlife Board to achieve *Infested* status for that waterbody in administrative rule.

Objective 5: Obtain and organize resources, including compliance with laws and permits

Purpose: Provide sufficient resources to implement the Control Plan.

Resource commitment: The DWR AIS Coordinator will work with agency leadership to secure commitments from Response Team members' agencies and others for needed staff, facilities, equipment, and funds. The DWR AIS Coordinator and the Response Team will identify and secure sufficient resources for the dreissenid mussel control/containment or eradication actions and ensure a mechanism for dispersal of funds is in place.

- Develop Memoranda of Agreement for transferring money between agencies.
- Develop Memoranda of Understanding with counties and other entities as needed for the use of employees and donation of in-kind services.

Laws and permits: A broad array of local, state, and federal laws and permitting processes will need to be recognized and compiled. To streamline the process, where possible, existing agency permits will be modified as opposed to securing new ones. Whenever possible, efforts should be made to obtain and organize resources referenced in this objective prior to detection of dreissenid mussels in a state waterbody.

The Response Team members will work with their respective agencies to issue appropriate closure orders at the affected waterbody.

Equipment and Resources: The DWR AIS Operations Lieutenant will coordinate with the Response Team to create an inventory checklist of equipment required for implementation of the RRP (sample list can be found in Appendix II). The Response Team will then review equipment and supplies already in possession by Response Team agencies that can be used for this effort, including the redirection of resources from other locations and/or projects. Approved vendors

lists and current contracts will be reviewed to develop cost estimates for the remaining needed equipment and agreements will be made for the purchase of said equipment.

Personnel needs for containment operations will also be determined, including the need to house any hired staff that may be recruited from outside the immediate area. Whenever possible and appropriate, the DWR will look to redirect staff and equipment from other locations for short-term operations at the affected waterbody while a longer-term staffing plan is developed. The DWR will then assume responsibility for the hiring, training, and staffing of required personnel for the longer-term plan.

Objective 6: Establish external communication systems

Purpose: Ensure consistent and effective communication to interested external parties, including the media and the public.

Circulation of information: The DWR AIS Operations Lieutenant, in conjunction with Regional and Statewide Outreach personnel, federal public affairs staff, and the Response Team, will develop an information dissemination process to ensure consistent and effective communication to interested stakeholders, including the media and public.

- The initial release of information to the media will not occur until all agency partners are notified, including all contacts listed under *Objective 1* of this plan.
- The initial media response should be initiated within 48 hours of meeting the minimum criteria for detection (designation of *Suspect* Status).

Outreach: Develop and disseminate general public education and outreach material that is agreed upon between state and federal agencies.

- Press releases will be developed by outreach and communications staff from Response Team agencies and will require approval by all parties before release.
- Signs will be developed and placed at strategic access points. All relevant agency emblems shall be included on all signs.
- Outreach messaging will be adapted to reflect the status level of the affect waterbody, and will be continually updated with any change in status level. The DWR will provide updated information to the public every 10 days on any closure order enacted at the affected waterbody, as required by administrative rule R657-60-8.

- Informational pamphlets explaining the waterbody status and inspection/decontamination requirements will be developed and distributed to boaters at watercraft inspection locations.
- The DWR and STDoftheSea.utah.gov websites will be updated with waterbody closure information and a Frequently Asked Questions section will be created to allow for quick access of information by the public.
- DWR self-certification forms required by administrative rule R657-60 will be updated to reflect the change in status of the affected waterbody
- The DWR AIS Coordinator and the DWR AIS Operations Lieutenant will disseminate information to the western state AIS community through regional coordinating groups such as the Western Invasive Species Coordinating Effort (WISCE), the Western Regional Panel on Aquatic Nuisance Species (WRP), the Western Association of Fish & Wildlife Agencies (WAFWA), the Colorado River Fish & Wildlife Council (CRFWC), and others.

Objective 7: Activate interdiction strategy and any appropriate control actions

Purpose: Minimize vectors and pathways. The DWR AIS Operations Lieutenant and the Response Team will evaluate risks for dispersal and minimize all vectors and pathways to avoid the further spread of dreissenid mussels. In addition, if the Rapid Response Team has determined that a control attempt is practicable, control actions will be taken.

Note: When a waterbody-specific RRP exists, the strategy outlined in that document will be implemented.

Closures and Restrictions

- Short-term closures. Following an initial detection of dreissenid mussels, shore launching will be immediately prohibited where applicable. Law Enforcement and the Response Team members will provide support and ensure compliance of AIS law at designated inspection stations and administrative checkpoints. Records will be documented in the regional Watercraft Inspection and Decontamination database.
- Long-term closures. Access will be reduced and/or restricted as needed based on risk level area (i.e., marina/docks) and watercraft type. The use of long-term closures will be dependent upon sampling results undertaken in Objective 2 that will determine the status of the affected waterbody (i.e., *Suspect*, *Positive/Detected*, or *Infested*). Waterbody status will dictate whether the Response Team implements a *Prevention & Containment* approach, as is needed at a *Suspect* waterbody, or solely a *Containment* approach.

- Ramp and access closures
 - The DWR will work with land and water controlling agencies to determine which ramps and accesses will be closed vs. restricted access. Watercraft usage, watercraft type, remoteness of locations, number and types of access points will be essential information to determine this. Agencies would have time to determine long term access goals and interdiction efforts.
 - Those same agencies will work together with the DWR to develop hours of operation for mandatory inspection stations at those ramps and other critical locations. Typically, daylight hours would be preferred.
 - Potential impacts to the local economy will also be considered. Local support will be critical to a successful long-term strategy.
 - Consideration may be given to restricting access based on watercraft type. Watercraft type restrictions would greatly reduce the potential for transfer of veligers to new waters. Larger watercraft with more complex raw water systems are more difficult to fully drain, and therefore, pose a greater risk of transporting veligers than smaller, simpler watercraft.
- Access signage
 - Utilize already created signage that has been pre-approved by stakeholders
- Direction of LE and non-LE resources
 - Provide support and ensure compliance of AIS law at designated inspection stations and administrative checkpoints
 - Document all watercraft accessing designated water
- Reallocate personnel to site
- Determine housing needs for personnel
- Begin hiring, training, staffing of required seasonal personnel
- Acquisition of equipment to the site
 - Availability and location dependent; may vary
 - The availability of state vehicles for watercraft inspection operations may be limited, and reimbursement for private vehicle use should be considered. All budget requests should reflect this concern.
 - The Response Team will evaluate the potential use of automated camera technology to document after hours use by watercraft.
- Ensure signatures and final copies of MOUs, agreements, and permits pursued for operations and potential establishment of new inspection stations are available to all parties.
- Ensure signatures and final copies of magistrate signed administrative checkpoints are available.

Objective 8: Institute long-term monitoring

The DWR AIS Coordinator, working with other Response Team members, will develop a long-term monitoring plan to assess the effectiveness of any containment and/or control efforts implemented in response to the initial mussel detection. Monitoring efforts will vary in frequency and methods based on the level of detection (i.e., waterbody classification). For *Suspect* or *Positive/Detected* status waters, veliger sampling will occur at a minimum once per month during the primary boating season (May – October). In addition, SCUBA divers will be deployed at least once per year to survey underwater substrates and infrastructure. All docks and other structures retrieved from the water will be inspected for attached mussels upon retrieval. Artificial substrate samplers will be deployed in the waterbody according to the protocol outlined in the *Utah Division of Wildlife Resources Aquatic Invasive Species Dreissenid Sampling Protocols* (2020). For *Infested* status waters, both veliger and juvenile/adult sampling will occur on an as-needed basis to track mussel population expansion. Monitoring results will be disseminated to all entities represented on the Response Team through an easily accessible, consolidated, and coordinated real-time dataset.

Objective 9: Adaptive management

Purpose: Review the initial response and establish continuity among all relevant stakeholders to transition from an initial rapid response scenario to ongoing, long-term management.

The initial response is intended to guide management actions for the first year after a mussel detection. In the event that no additional detections are confirmed, similar management actions will be continued for three years (the duration of a *Suspect* status), at which time the waterbody will be reclassified to an *Undetected/Negative* status. In the event of additional detections that meet the criteria for a *Positive/Detected* or *Infested* status, the actions noted in this plan will be carried out for the first year, at which time management will transition to a long-term containment strategy.

After the initial response is implemented, the Response Team will conduct an after-action review of the response and identify changes in response needed going forward to reflect changes in waterbody status. This will include identifying long-term strategies and goals for interdiction operations, including any changes needed to existing cooperative agreements and MOUs; developing new and accurate outreach messaging; adapting sampling and monitoring plans to reflect changes in monitoring goals (see Objective 2 above); and developing budget projections for management actions required for effective containment.

5. Legislation Required and Budgetary Requirements for Rapid Response Plan Implementation

Legislation

- Creation of new legislation requiring a stamp or sticker to be applied on every non-motorized watercraft used at *Suspect*, *Positive/Detected*, or *Infested* waterbody
 - This requirement would allow for the easy identification of those watercraft that were likely not launched at a developed launch ramp where AIS inspection staff were present to conduct inspections and enter visitation records into the regional WID database. This stamp/sticker requirement could be combined with the legislation proposed below.
- 23-27-501: Creation of a new launch fee for watercraft launched in *Suspect*, *Positive/Detected*, and *Infested* Waters

This new fee would provide a scalable model to fund the watercraft inspection and decontamination operations needed to prevent further spread of invasive mussels away from the affected waterbody. As watercraft usage at the waterbody increased, the revenue generated by the fee would also increase in tandem, helping to provide the additional resources required to inspect and decontaminate more watercraft. Likewise, if watercraft usage decreased, less revenue would be generated but fewer resources would also be needed to interdict fewer watercraft. Depending on the cost of this fee, the revenue generated could provide a significant portion of the total amount of funding needed to implement a rapid response plan at many of Utah's waterbodies (see the example described under the *Budgetary Requirements* section below). Additionally, this model would place the cost of the increased workload resulting from a mussel-affected waterbody on those boaters that use that waterbody. This approach would reduce the need to increase boating fees for all boaters in Utah, regardless of where they boat, and would represent a more equitable approach to watercraft inspection fee requirements.

Budgetary Requirements

The financial resources required to implement a rapid response effort at any waterbody in Utah will vary greatly depending on a number of factors. The primary factor that will determine the resources needed is the status of the waterbody. *Suspect* waterbodies will require staff to conduct both entrance and exit watercraft inspections because a viable mussel population has not yet been documented in the waterbody; therefore, incoming boats must be inspected prior to launch to prevent new introductions of mussels and exiting boats must be inspected to ensure that they are

not transporting any potential mussels that may be present. In addition, the *Suspect* status is a temporary status and would likely not necessitate significant investments in long-term infrastructure like land purchases and housing for inspection staff. *Positive/Detected* and *Infested* waters would require the inspection of only exiting boats, but would increase the need for decontamination of these boats and the pursuit of long-term solutions like new highway mandatory inspection stations that would likely require significant one-time investments. *Positive/Detected* status remains in effect for a minimum of five years, and *Infested* a minimum of seven years, although neither is likely to be downgraded to an *Undetected/Negative* status until viable eradication options are developed.

Other factors that will determine the resources required for rapid response plan implementation include:

- the size of the waterbody -- this will partly determine the number of boats that can use the reservoir, the number of possible access points, and the potential for use of various control/eradication tools.
- the level of recreational boating at that waterbody -- the more boats using the reservoir, the more resources will be needed to conduct exit inspections and decontaminations.
- the types of boats most common at that waterbody -- more complex boats like wakeboard boats and cabin cruisers require significantly more resources to inspect and decontaminate.
- the number of recreational access points, including whether shoreline launching is permitted -- the greater the number of access points, the more significant the challenge to inspect boats leaving the waterbody.
- the presence of any existing watercraft inspection stations -- existing stations may negate the necessity to establish new stations.
- whether highway mandatory watercraft inspection stations are required, and if so, whether appropriate sites for those stations currently exist or would have to be purchased and improved -- waterbodies with several access points, including many uncontrolled access points (e.g., shoreline launching), may be more effectively addressed through highway inspection stations. In situations where land must be purchased and improved for this purpose, costs may be significant.
- whether any biological/chemical control efforts are undertaken -- these treatment options may be very costly depending on the treatment used, including the duration and number of treatments required.
- the proximity of the affected waterbody to other waters -- if the likelihood of boaters leaving the affected waterbody to immediately recreate in another nearby waterbody is high, more resources will be needed to conduct watercraft decontaminations.
- the proximity of the affected waterbody to towns and other potential sources of staff for operation of inspection stations -- if an immediate source of watercraft inspection staff

exists, recruitment will be easier and the need to build and provide housing for potential staff can be avoided.

Depending on these factors, annual costs for rapid response plan implementation may range from \$100,000 to \$1,000,000 or more. Examples listed in Appendix I illustrate the wide range of resources that would be required for rapid response plan implementation at different Utah waterbodies. The new legislation proposed above could significantly offset the amount of new money required by tying the numbers of boats used at these reservoirs with the amount of revenue generated to manage the inspection workload. For example, under the second example (similar to Jordanelle Reservoir), approximately 20,000 boat launches occur each year. If an additional \$5 launch fee per boat was implemented, one-third of the \$300,000 annual budget required to implement a rapid response plan would be provided by this fee. A \$10 fee would provide two-thirds of the funding required.

Literature Cited

Utah Division of Wildlife Resources. 2020. Utah Division of Wildlife Resources
Dreissenid Mussel Sampling Protocols.

Appendix I

Examples of Financial Resources Required for Rapid Response Plan Implementation at Different Waterbodies

Note: The following costs are based on the response to a *Suspect* classification, which is a temporary classification. Responses to either a *Positive/Detected* or an *Infested* status may require significantly more in the form of one-time investments for the establishment of new, long-term mandatory inspection stations and infrastructure for decontamination services.

Example #1 -- One-time Cost of \$50,000 and Annual Cost of \$100,000:

Location: a State Park reservoir measuring 500 surface acres and located within 30 miles of a city

Access: Two controlled access points exist and shoreline launching is prohibited

Use: A typical summer weekend may see 100 boats launched, including a mix of fishing boats and recreational boats (ski boats and wakeboard boats)

Explanation: With only two access points at this relatively small reservoir, and medium recreational boating use, the two access points could be easily staffed by watercraft inspection crews during daylight hours from April through October. Staff could be hired from the nearby city and housing would not be required. The establishment of new highway mandatory inspection stations would not be needed, and two decontamination units could be purchased (\$50,000 one-time cost) and provided to accommodate the relatively small number of decontaminations that would be required daily.

Example #2 -- One-time Cost of \$100,000 and Annual Cost of \$300,000:

Location: a reservoir measuring 3,000 surface acres and located within 30 miles of a city

Access: Four controlled access points exist and shoreline launching is prohibited

Use: A typical summer weekend may see 800 boats launched, including mostly wakeboard boats and occasionally cabin cruisers

Explanation: With four access points at this medium-sized reservoir, and the relatively high use by more complex boats like wakeboard boats, all four access points would require watercraft

inspection staffing during weekends from dawn to dusk, with slightly reduced daily coverage during weekdays from April through October. Staff could be hired from the nearby city and housing would not be required. One decontamination unit could be purchased for each of the four access points (one-time investment of \$100,000) in order to accommodate the 20-30 decontaminations that would be required daily at each access point during summer weekends.

Example #3 -- One-time Cost of \$150,000 and Annual Cost of \$500,000:

Location: a reservoir measuring 25,000 surface acres and located within 30 miles of a city

Access: Four controlled and six uncontrolled access points exist and shoreline launching is permitted

Use: A typical summer weekend may see 2,500 boats launched, including wakeboard boats and occasionally cabin cruisers

Explanation: With many access points at this large reservoir, including unlimited shoreline launching access, and the relatively high amount of boating traffic that the reservoir experiences, watercraft inspection operations would be most effective at strategic highway pinch points, combined with ramp staffing at certain marinas. Staff would be required during weekends from dawn to dusk, with slightly reduced daily coverage during weekdays from April through October. Staff could possibly be hired from the nearby city, but the number of technicians needed may result in the need to provide housing for individuals hired from outside the area. In addition, the need for highway inspection stations would likely require the leasing of property at multiple locations to establish these temporary stations (two locations at \$1,000 per month each). One decontamination unit would be purchased for each staffing location (one-time investment of \$150,000 based on two highway locations and four ramps) in order to accommodate the 20-30 decontaminations that would be required daily at each access point during summer weekends.

Appendix II

Example of inventory checklist of equipment needed by Response Team Rental Companies for equipment needs

Equipment item	Dimensions	Quantity	(\$ Cost per item
AIS trailer (transport and store items)			~6,000
SIGNS			
Signs: "MANDATORY WATERCRAFT INSPECTION AHEAD"	48" roll up w pocket	2	~243
Signs: "ALL BOATS CANOES KAYAKS PADDLEBOARDS FLOATS REQUIRED TO STOP"	48" roll up w pocket	2	~205
Signs: "ALL WATERCRAFT PREPARE TO STOP"	48" roll up w pocket	4	~205
Signs: "MANDATORY WATERCRAFT INSPECTION (REMOVABLE ARROW BELOW)"	48" roll up w pocket	2	~205
Signs: "ENTER HERE WATERCRAFT INSPECTION"			
Stands for the signs:	Metal 4 leg, extendable and center spring	10	~120
Traffic Cones: Large 28" Triangle	28" Large Triangle orange/blk base	50	~16
Traffic Cones: Candlesticks	Large candlestick orange/blk base	25	~18
Barricades: Type 2 (A frame/sandwich board)	Waffle Board, 14 ga galv legs	15	~70
Barricades: Type 3	8' tall, plastic/steel	1	~220
RENTALS			Rent per day
VMS/Electronic Message Boards		3	120/ea
Bubble light/ Balloon lights		1	75
Generator:		1	25
MISCELLANEOUS EQUIPMENT			
Table			
Canopy			
Bungee cords/tie downs or buckets and tie lines for canopy			
Chairs			
Office Supplies ie pens, pencils, clipboards			
Watercraft seals, receipts			
Outreach materials			
Flashlights			

	Utah Rental Companies		
Northern Region			
Ogden	Traffic Safety Rentals	979 W 24th St, Ogden	801-627-1970
Logan	Barton Construction Equip Rental	550 E 1400 N, Logan	435-244-1059
Syracuse	Wasatch Barricade	918 S 2000 W, Syracuse	801-773-4390
Hyde Park	Pro Rentals and Sales	3559 N US-91, Hyde Park	435-774-0900
Logan	Century Equipment Co	453 N 1000 W, Logan	435-752-1533
Garden City	Bear Bottom Equipment Rental	200 W 200 N, Garden City	435-946-2515
Central Region			
SLC	Safety and Sign Supply		
SLC	Utah Barricade Company	3232 S Redwood Rd, WVC	801-973-9800
Provo	Interwest Safety Supply	744 Lakeview Pkwy, Provo	801-375-6321
Draper	Underwood Construction Equip	114 E 12450 S, Draper	385-269-8452
Northeast Region			
Vernal	Basin Rentals Inc	280 N Vernal Ave, Vernal	735-789-5267
Roosevelt	Rain For Rent	35 N Union St, Roosevelt	435-722-9770
Roosevelt	Big B Equipment Inc	2139 W, US-40, Roosevelt	435-722-3679
Vernal	J & C Enterprises Inc.	715 E 500 S, Vernal	435-789-8370
Southeast Region			
Price	A-1 Rental and Sales Inc	190 S Carbon Ave, Price	435-637-2200
Moab	Grand Rental Center	1831 US191, Moab	435-259-6976
Huntington	Wheeler Machinery Co.	765 N 400 W, Huntington	435-687-1200
Southern Region			
Cedar City	Century Equipment Co	482 N Main St, Cedar	435-586-4406
Cedar City	Robison Rentals	1440 N Main St, Cedar	435-586-0222
Cedar City	Utah Barricade Company	450 Coal Creek Rd, Cedar	435-865-6367
Richfield	Ahern Rentals	25 E 900 N, Richfield	435-896-7368
St George	Utah Barricade Company	3128 Deseret Dr, St George	435-674-7998
Fillmore	D & K Tool Rental	110 N Main St, Fillmore	435-253-0413
Washington	Affordable Equipment Rental	245 S Main St, Washington	435-705-8544
St George	CK Equipment Rentals	760 N 1620 W Cir, St G	435-619-6312
Washington	Ahern Rentals	1280 Red Ledge Rd, Wash.	435-628-4100
St George	H & E Equipment Services	4319 S River Rd, St G	435-674-2994
Hurricane	Hurricane Equipment Rentals	715 W State St, Hurricane	435-625-1069
St George	Beehive Rental & Sales LLC	1175 Highland Dr, St. G	435-628-6663

APPENDIX III

Chapter 27

Aquatic Invasive Species Interdiction Act

Part 1

General Provisions

23-27-101 Title.

This chapter is known as the “Aquatic Invasive Species Interdiction Act.”

Enacted by Chapter 284, 2008 General Session

23-27-102 Definitions.

As used in this chapter:

(1) “Board” means the Wildlife Board.

(2)

(a) “Conveyance” means a terrestrial or aquatic vehicle or a vehicle part that may carry or contain a Dreissena mussel.

(b) “Conveyance” includes a motor vehicle, a vessel, a motorboat, a sailboat, a personal watercraft, a container, a trailer, a live well, or a bilge area.

(3) “Decontaminate” means to:

(a) drain and dry all non-treated water; and

(b) chemically or thermally treat in accordance with rule.

(4) “Director” means the director of the division.

- (5) "Division" means the Division of Wildlife Resources.
- (6) "Dreissena mussel" means a mussel of the genus *Dreissena* at any life stage, including a zebra mussel, a quagga mussel, and Conrad's false mussel.
- (7) "Equipment" means an article, tool, implement, or device capable of carrying or containing:
- (a) water; or
 - (b) a *Dreissena* mussel.
- (8) "Executive director" means the executive director of the Department of Natural Resources.
- (9) "Facility" means a structure that is located within or adjacent to a waterbody.
- (10) "Infested water" means a geographic region, waterbody, facility, or water supply system within or outside the state that the board identifies in rule as carrying or containing a *Dreissena* mussel.
- (11) "Vessel" means the same as that term is defined in Section 73-18-2.
- (12) "waterbody" means natural or impounded surface water, including a stream, river, spring, lake, reservoir, pond, wetland, tank, and fountain.
- (13)
- (a) "Water supply system" means a system that treats, conveys, or distributes water for irrigation, industrial, waste water treatment, or culinary use.
 - (b) "Water supply system" includes a pump, canal, ditch, or pipeline.
 - (c) "Water supply system" does not include a waterbody.

Amended by Chapter 195, 2020 General Session

Part 2

Invasive Species Prohibited

23-27-201 Invasive species prohibited -- Administrative inspection authorized.

- (1) Except as authorized in this title or a board rule or order, a person may not:
 - (a) possess, import, export, ship, or transport a Dreissena mussel;
 - (b) release, place, plant, or cause to be released, placed, or planted a Dreissena mussel in a waterbody, facility, or water supply system; or
 - (c) transport a conveyance or equipment that has been in an infested water within the previous 30 days without decontaminating the conveyance or equipment.
- (2) A person who violates Subsection (1):
 - (a) is strictly liable;
 - (b) is guilty of an infraction; and
 - (c) shall reimburse the state for all costs associated with detaining, quarantining, and decontaminating the conveyance or equipment.
- (3) A person who knowingly or intentionally violates Subsection (1) is guilty of a class A misdemeanor.
- (4) A person may not proceed past or travel through an inspection station or administrative checkpoint, as described in Section 23-27-301, while transporting a conveyance during an inspection station's or administrative checkpoint's hours of operations without presenting the conveyance for inspection.
- (5) A person who violates Subsection (4) is guilty of a class B misdemeanor.

Amended by Chapter 274, 2014 General Session

23-27-202 Reporting of invasive species required.

- (1) A person who discovers a Dreissena mussel within this state or has reason to believe a Dreissena mussel may exist at a specific location shall immediately report the discovery to the division.
- (2) A person who violates Subsection (1) is guilty of a class A misdemeanor.

Enacted by Chapter 284, 2008 General Session

Part 3

Enforcement

23-27-301 Division's power to prevent invasive species infestation.

To eradicate and prevent the infestation of a Dreissena mussel, the division may:

- (1)
 - (a) establish inspection stations located at or along:
 - (i) highways, as defined in Section 72-1-102;
 - (ii) ports of entry, if the Department of Transportation authorizes the division to use the port of entry; and
 - (iii) publicly accessible:
 - (A) boat ramps; and
 - (B) conveyance launch sites; and
 - (b) temporarily stop, detain, and inspect a conveyance or equipment that:
 - (i) the division reasonably believes is in violation of Section 23-27-201;
 - (ii) the division reasonably believes is in violation of Section 23-27-306;
 - (iii) is stopped at an inspection station; or
 - (iv) is stopped at an administrative checkpoint;
- (2) conduct an administrative checkpoint in accordance with Section 77-23-104;
- (3) detain and quarantine a conveyance or equipment as provided in Section 23-27-302;
- (4) order a person to decontaminate a conveyance or equipment; and
- (5) inspect the following that may contain a Dreissena mussel:
 - (a) a waterbody;
 - (b) a facility; and
 - (c) a water supply system.

Amended by Chapter 195, 2020 General Session

23-27-302 Conveyance or equipment detainment or quarantine.

- (1) The division, a port-of-entry agent, or a peace officer may detain or quarantine a conveyance or equipment if:
 - (a) the division, agent, or peace officer:
 - (i) finds the conveyance or equipment contains a Dreissena mussel; or
 - (ii) reasonably believes that the person transporting the conveyance or equipment is in violation of Section 23-27-201; or
 - (b) the person transporting the conveyance or equipment refuses to submit to an inspection authorized by Section 23-27-301.
- (2) The detainment or quarantine authorized by Subsection (1) may continue for:
 - (a) up to five days; or
 - (b) the period of time necessary to:
 - (i) decontaminate the conveyance or equipment; and
 - (ii) ensure that a Dreissena mussel is not living on or in the conveyance or equipment.

Enacted by Chapter 284, 2008 General Session

23-27-303 Closing a water body, facility, or water supply system.

- (1) Except as provided by Subsection (6), if the division detects or suspects a Dreissena mussel is present in a water body, a facility, or a water supply system, the director or the director's designee may, with the concurrence of the executive director, order:
 - (a) the water body, facility, or water supply system closed to a conveyance or equipment;
 - (b) restricted access by a conveyance or equipment to a water body, facility, or water supply system; or
 - (c) a conveyance or equipment that is removed from or introduced to the water body, facility, or water supply system to be inspected, quarantined, or decontaminated in a manner and for a duration necessary to detect and prevent the infestation of a Dreissena mussel.
- (2) If a closure authorized by Subsection (1) lasts longer than seven days, the division shall:
 - (a) provide a written update to the operator of the water body, facility, or water supply system every 10 days on the division's effort to address the Dreissena infestation; and
 - (b) post the update on the division's website.

(3)

(a) The board shall develop procedures to ensure proper notification of a state, federal, or local agency that is affected by a Dreissena mussel infestation.

(b) The notification shall include:

- (i) the reasons for the closure, quarantine, or restriction; and
- (ii) methods for providing updated information to the agency.

(4) When deciding the scope, duration, level, and type of restriction or a quarantine or closure location, the director shall consult with the person with the jurisdiction, control, or management responsibility over the water body, facility, or water supply system to avoid or minimize disruption of economic and recreational activity.

(5)

(a) A person that operates a water supply system shall cooperate with the division to implement a measure to:

- (i) avoid infestation by a Dreissena mussel; and
- (ii) control or eradicate a Dreissena mussel infestation that may occur in a water supply system.

(b)

(i) If a Dreissena mussel is detected, the water supply system's operator, in cooperation with the division, shall prepare and implement a plan to control or eradicate a Dreissena mussel within the water supply system.

(ii) A plan required by Subsection (5)(b)(i) shall include a:

- (A) method for determining the scope and extent of the infestation;
- (B) method to control or eradicate the Dreissena mussel;
- (C) method to decontaminate the water supply system containing the Dreissena mussel;
- (D) systematic monitoring program to determine a change in the infestation; and
- (E) requirement to update or revise the plan in conformity with a scientific advance in the method of controlling or eradicating a Dreissena mussel.

(6)

(a) The division may not close or quarantine a water supply system if the operator has prepared and implemented a plan to control or eradicate a Dreissena mussel in accordance with Subsection (5).

(b)

(i) The division may require the operator to update a plan.

(ii) If the operator fails to update or revise a plan, the division may close or quarantine the water supply system in accordance with this section.

23-27-304 Aquatic invasive species fee.

(1)

(a) Except as provided in Subsection (1)(b), there is imposed an annual nonresident aquatic invasive species fee of \$20 on each vessel in order to launch or operate a vessel in waters of this state if:

- (i) the vessel is owned by a nonresident; and
- (ii) the vessel would otherwise be subject to registration requirements under Section 73-18-7 if the vessel were owned by a resident of this state.

(b) The provisions of Subsection (1)(a) do not apply if the vessel is owned and operated by a state or federal government agency and the vessel is used within the course and scope of the duties of the agency.

(c) The division shall administer and collect the fee described in Subsection (1)(a), and the fee shall be deposited into the Aquatic Invasive Species Interdiction Account created in Section 23-27-305.

(2) Before launching a vessel on the waters of this state, a nonresident shall pay the aquatic invasive species fee as described in Subsection (1), and the vessel owner shall successfully complete an aquatic invasive species education course offered by the division.

(3)

(a) The division shall study options and feasibility of implementing an automated system capable of scanning, photographing, and providing real-time information regarding a conveyance's or equipment's:

- (i) last entry into a body of water; and
- (ii) last decontamination.

(b) The study described in Subsection (3)(a) shall evaluate the system's capability of:

- (i) operation with or without the use or supervision of personnel;
- (ii) operation 24 hours per day;
- (iii) capturing a state assigned number on a vessel or conveyance as described in Section 73-18-6;
- (iv) preserving photographic evidence of:
 - (A) a conveyance's state assigned bow number;
 - (B) a conveyance's or equipment's entry into a body of water, including the global positioning system location of where the conveyance is photographed; and
 - (C) decontamination of the conveyance or equipment;

- (v) identifying a conveyance or equipment not owned by a resident that is entering a body of water in this state; and
 - (vi) collecting the fee described in Subsection (1).
- (c) The division shall present a report of the study and findings described in Subsections (3)(a) and (b) to the Natural Resources, Agriculture, and Environment Interim Committee before November 30, 2020.
- (d) Based on the findings of the study described in this Subsection (3), the division shall implement a pilot program to provide the services described in this Subsection (3) on or before May 1, 2021.
- (4) The board may increase fees assessed under Subsection (1), so long as:
- (a) the fee for nonresidents described in Subsection (1) is no less than the resident fee described in Section 73-18-26; and
 - (b) the fee is confirmed in the legislative fee schedule.
- (5) In accordance with Title 63G, Chapter 3, Utah Administrative Rulemaking Act, the board may make rules establishing procedures for:
- (a) proof of payment and other methods of verifying compliance with this section;
 - (b) special requirements applicable on interstate water bodies in this state; and
 - (c) other provisions necessary for the administration of the program.

Enacted by Chapter 195, 2020 General Session

23-27-305 Aquatic Invasive Species Interdiction Account.

- (1) There is created within the General Fund a restricted account known as the Aquatic Invasive Species Interdiction Account.
- (2) The restricted account shall consist of:
- (a) nonresident aquatic invasive species fees collected under Section 23-27-304;
 - (b) resident aquatic invasive species fees collected under Section 73-18-26; and
 - (c) any other amount deposited in the restricted account from donations, appropriations, contractual agreements, and accrued interest.
- (3) Upon appropriation, the division shall use the fees collected under Sections 23-27-305 and 73-18-26 and deposited in the Aquatic Invasive Species Account to fund aquatic invasive species prevention and containment efforts.

Enacted by Chapter 195, 2020 General Session

23-27-306 Removal of drain plug or similar device during transport.

(1) Before transporting a conveyance on a highway, as defined in Section 72-1-102, in the state, a person shall:

(a) remove the plugs and similar devices that prevent drainage of raw water systems on the conveyance; and

(b) to the extent feasible, drain all water from live wells, bilges, ballast tanks, or similar compartments on the conveyance.

(2) A person who fails to comply with Subsection (1) is guilty of a class C misdemeanor.

Enacted by Chapter 195, 2020 General Session

Part 4

Administration

23-27-401 Rulemaking authority.

In accordance with Title 63G, Chapter 3, Utah Administrative Rulemaking Act, the board may make rules that:

(1) establish the procedures and requirements for decontaminating a conveyance or equipment to prevent the introduction and infestation of a Dreissena mussel;

(2) establish the requirements necessary to provide proof that a conveyance or equipment is decontaminated;

(3) establish the notification procedures required in Section 23-27-303;

(4) identify the geographic area, water body, facility, or water supply system that is infested by Dreissena mussels;

- (5) establish a procedure and protocol in cooperation with the Department of Transportation for stopping, inspecting, detaining, and decontaminating a conveyance or equipment at a port-of-entry in accordance with Section 23-27-301; and
- (6) are necessary to administer and enforce the provisions of this chapter.

Enacted by Chapter 284, 2008 General Session

Part 5

Statewide Aquatic Invasive Species Emergency Response Plan

23-27-501 Aquatic Invasive Species Emergency Response Plan.

- (1) As used in this section:
 - (a) "Committee" means the Natural Resources, Agriculture, and Environment Interim Committee.
 - (b) "Emergency response plan" means the statewide aquatic invasive species emergency response plan developed by the division in accordance with this part.
- (2) The division shall develop a statewide aquatic invasive species emergency response plan to address the potential spread of aquatic invasive species throughout the state.
- (3) In developing the emergency response plan, the division shall coordinate with public and private entities that may be necessary or helpful to remediating the potential spread of aquatic invasive species throughout the state.
- (4) The emergency response plan shall:
 - (a) designate the division as the entity that will coordinate the implementation of the emergency response plan;
 - (b) provide for annual review of the emergency response plan by the division;
 - (c) provide that the emergency response plan may only be implemented if the division detects aquatic invasive species, including *Dreissena* mussels, at a water body, facility, or water supply system within the state; and

(d) define what constitutes a detection of aquatic invasive species at a water body, facility, or water supply system.

(5) On or before August 1, 2021, the division shall submit to the committee the following:

- (a) the emergency response plan;
- (b) proposed legislation that may be necessary to effectuate the emergency response plan or to increase the effectiveness of the emergency response plan; and
- (c) an analysis and estimate of the cost to implement the emergency response plan.

(6) After receiving the items described in Subsection (5), the committee may:

- (a) recommend to the Legislature that the plan be implemented;
- (b) return the plan to the division for further study and evaluation;
- (c) draft legislation proposed or requested by the division; or
- (d) take action to further the funding of the emergency response plan.

(7) If an event requires the implementation of the emergency response plan, the division shall report on that event and the implementation of the emergency response plan to the committee.

Enacted by Chapter 248, 2021 General Session

APPENDIX IV

R657-60-1. Purpose and Authority.

(1) The purpose of this rule is to define procedures and regulations designed to prevent and control the spread of aquatic invasive species within Utah.

(2) This rule is promulgated pursuant to authority granted to the Wildlife Board in Sections 23-27-401, 23-14-18, and 23-14-19.

R657-60-2. Definitions.

- (1) Terms used in this rule are defined in Sections 23-13-2 and 23-27-102.
- (2) In addition:
 - (a) "Conveyance" means a terrestrial or aquatic vehicle, including a vessel, or a vehicle part that may carry or contain a Dreissena mussel.
 - (b) "Decontaminate" or "Decontaminated" means to comply with one of the following methods:
 - (i) if no adult mussels are attached to the conveyance after exiting the water body, an owner or operator may self-decontaminate equipment or a conveyance that has been in an infested water in the previous 30 days by:
 - (A) removing all plants, fish, and mud from the equipment or conveyance;
 - (B) draining all water from the equipment or conveyance, including water held in ballast tanks, bilges, livewells, and motors; and
 - (C) drying the equipment or conveyance for no less than seven days in June, July and August; 18 days in September, October, November, March, April and May; 30 days in December, January and February; or expose the equipment or conveyance to sub-freezing temperatures for 72 consecutive hours; or
 - (D) if all water cannot be drained from the conveyance, or the conveyance has a complex water or mechanical system that the division determines poses a significant risk that Dreissena mussels could remain on the conveyance after the dry time identified in Subsection (C), fulfilling the requirements of Subsection (A) and (B) to the extent practicable and drying the conveyance for no less than 30 days;
 - (ii) professionally decontaminate equipment or a conveyance that has been in an infested water in the previous 30 days by:
 - (A) using a professional decontamination service approved by the division to apply scalding water, 140 degrees Fahrenheit, to completely wash the equipment or conveyance and flush any areas where water is held, including ballast tanks, bilges, livewells, and motors; and
 - (B) complete a mandatory 30 day dry time after the scalding water wash is completed if the division determines that, due to the complexity of water or mechanical systems on the conveyance, a significant risk that Dreissena mussels remain present on the conveyance regardless of receiving a scalding water wash described in Subsection (A); or
 - (iii) complying with all protocols identified in a certificate of registration.
 - (c) "Detected Water" or "Detected" means a water body, facility, or water supply system where the presence of a Dreissena mussel is indicated in two

consecutive sampling events using visual identification or microscopy and the results of each sampling event is confirmed in two polymerase chain reaction tests, each conducted at independent laboratories.

(d) "Dreissena mussel" means a mussel of the genus *Dreissena* at any life stage, including a zebra mussel, a quagga mussel and a Conrad's false mussel.

(e) "Controlling entity" means the owner, operator, or manager of a water body, facility, or a water supply system.

(f) "Equipment" means an article, tool, implement, or device capable of carrying or containing water or *Dreissena* mussel.

(g) "Facility" means a structure that is located within or adjacent to a water body.

(h) "Highway" has the same meaning as Subsection 72-1-102(7).

(i) "Infested Water" or "Infested" means a water body, facility, water supply system, or geographic region where the presence of multiple age classes of attached *Dreissena* mussels is indicated in two or more consecutive sampling events using visual detection or microscopy and the result of each sampling event is confirmed in two polymerase chain reaction tests, each conducted at independent laboratories.

(j) "Juvenile or adult *Dreissena* mussel" means a macroscopic *Dreissena* mussel that is not a veliger.

(k) "Quarantine" means imposing a required minimum period of time where a conveyance must stay at a predetermined location in order to minimize the risk that *Dreissena* mussels are spread.

(l) "Suspected Water" or "Suspected" means a water body, facility, or water supply system where the presence of a *Dreissena* mussel is indicated through a single sampling event using visual identification or microscopy and the result of that sampling event is confirmed in two independent polymerase chain reaction tests, each conducted at independent laboratories.

(m) "Veliger" means a microscopic, planktonic larva of *Dreissena* mussel.

(n) "Vessel" has the same meaning as Subsection 73-18-2(19).

(o) "Water body" means natural or impounded surface water, including a stream, river, spring, lake, reservoir, pond, wetland, tank, and fountain.

(p) "Water supply system" means a system that treats, conveys, or distributes water for irrigation, industrial, wastewater treatment, or culinary use, including a pump, canal, ditch or, pipeline.

(q) "Water supply system" does not include a water body.

R657-60-3. Possession of *Dreissena* Mussels.

- (1) Except as provided in Subsections R657-60-3(2) and R657-60-5(2), a person may not possess, import, ship, or transport any Dreissena mussel.
- (2) Dreissena mussels may be imported into and possessed within the state of Utah with prior written approval of the Director of the Division of Wildlife Resources or a designee.

R657-60-4. Reporting of invasive species required.

- (1) A person who discovers a Dreissena mussel within this state or has reason to believe a Dreissena mussel may exist at a specific location shall immediately report the discovery to the division.
- (2) The report shall include the following information:
 - (a) location of the Dreissena mussels;
 - (b) date of discovery;
 - (c) identification of any conveyance or equipment in which mussels may be held or attached; and
 - (d) identification of the reporting party with their contact information.
- (3) The report shall be made in person or in writing:
 - (a) at any division regional or headquarters office;
 - (b) to the division's toll free hotline at 1-800-662-3337; or
 - (c) on the division's website at www.wildlife.utah.gov/law/hsp/pf.php.
- (4) Reporting requirements under this Section do not apply to:
 - (a) Dreissena mussels found in an Infested waterbody;
 - (b) a conveyance or equipment that is subject to a quarantine or mandatory dry time and has been documented by the division; or
 - (c) a person lawfully in possession of a Dreissena mussel pursuant to Section R657-60-3.

R657-60-5. Requirements for transportation and launching of equipment and conveyances.

- (1) Before transporting a conveyance on a highway, as defined in Section 72-1-102, in the state, a person shall:
 - (a) remove all drain plugs and similar devices that prevent drainage of raw water systems on the conveyance; and
 - (b) to the extent feasible, drain all water from live wells, bilges, ballast tanks, and similar compartments on the conveyance.
- (2)(a) Before launching a conveyance in a Utah waterbody, a nonresident vessel owner shall:
 - (i) pay the annual aquatic invasive species fee;

- (ii) successfully complete the aquatic invasive species education course; and
- (iii) provide proof of compliance with this Subsection to the vessel operator.

(b) The vessel operator is responsible for verifying compliance with this Section while recreating on a Utah waterbody.

(c) Except as provided in Subsection (6), a person must satisfy all decontamination requirements before launching or placing equipment or a conveyance in a waterbody if that equipment or conveyance has been in a waterbody or water supply system subject to decontamination requirements in the previous 30 days.

(3) The owner, operator, or possessor of any equipment or conveyance that has been in a waterbody subject to decontamination requirements shall inspect the interior and exterior of the equipment or conveyance for the presence of Dreissena mussels immediately upon exiting the waterbody and prior to leaving the take out site.

(4)(a) If all water in the equipment or conveyance is drained and the inspection undertaken pursuant to Subsection (3) reveals the equipment and conveyance are free from mussels or shelled organisms, fish, plants and mud, the equipment and conveyance may be transported in or through the state directly from the take out site to the location where it will be:

- (i) decontaminated; or
- (ii) temporarily stored and subsequently returned to the same water body and take out site as provided in Subsection (6).

(b) All drain plugs and similar devices that prevent drainage of raw water systems on the conveyance shall be removed during the transport and storage of a conveyance.

(5) Equipment and conveyances may not be moved from a take out site of an infested, suspected, or detected water body, or a water body subject to a closure order or control plan requiring decontamination, unless:

- (a) the operator satisfies the requirements of Subsection (4); or
- (b) the operator receives prior written authorization to move the equipment or conveyance to a designated location to complete decontamination requirements.

(6) Decontamination is not required when a conveyance or equipment is removed from an infested water or other water body subject to decontamination requirements, provided the conveyance and equipment is:

- (a) inspected and drained at the take out site, and is free from attached mussels, shelled organisms, fish, plants, and mud as required in Subsections (1) and (2);

- (b) returned to the same water body and launched at the same take out site; and
 - (c) not placed in or on any other Utah water body in the interim without first being decontaminated.
- (7)(a) Division personnel may provide the operator of a vessel leaving an infested water, or any water subject to a closure order under Section R657-60-8 or control plan under Section R657-60-9, with an inspection certification indicating the date that vessel left the water body.
- (b) An individual who receives a certification of inspection from the division must retain that certification of inspection until:
- (i) the operator returns to the same body of water and receives a new certification of inspection upon leaving the water body;
 - (ii) the operator completes a certification of decontamination; or
 - (iii) the operator receives a professional decontamination certificate.

R657-60-6. Certification of Inspection; Certification of Decontamination; Certificate of Registration to Perform Decontamination.

- (1) The owner, operator or possessor of a vessel desiring to launch on a water body in Utah must:
- (a) present an inspection certificate to division personnel if required; and
 - (b) verify the vessel and any launching device, in the previous 30 days, have not been in an infested water or in any other water subject to closure order under Section R657-60-8 or control plan under Section R657-60-9 that requires decontamination of conveyances and equipment upon leaving the water; or
 - (c) certify the vessel and launching device have been decontaminated.
- (2) Certification of decontamination is satisfied by:
- (a) previously completing self-decontamination since the vessel and launching device were last in a water described in Subsection (1)(b) and completely filling out and dating a decontamination certification form which can be obtained from the division; or
 - (b) providing a signed and dated certificate by a division approved professional decontamination service verifying the vessel and launching device were professionally decontaminated since the vessel and launching device were last in a water described in Subsection (1)(b); or
 - (c) complying with the terms identified in a certificate of registration issued for alternative decontamination measures.
- (3) A certificate of registration to complete alternate forms of decontamination may be issued to an individual who:

- (a) operates conveyances as a part of their business;
 - (b) whose conveyances cannot be decontaminated using self decontamination or professional decontamination as defined in Subsections R657-60-2(b)(i) and R657-60-2(b)(ii).
- (4) Both the decontamination certification form and the professional decontamination certificate, where applicable, must be signed and placed in open view in the window of the launching vehicle prior to launching or placing the vessel in a body of water.
- (5)(a) It is unlawful under Section 76-8-504 to knowingly falsify a decontamination certification form.
- (b) It is unlawful under Subsection 23-13-11(2) to alter or destroy a certificate of inspection or other official indicator verifying inspection prior to completing a decontamination certification form.
- (c) The division may suspend, revoke, or terminate a certificate of registration if the business entity or an employee thereof has violated a term of this rule, the Wildlife Resources Code, or a certificate of registration.

R657-60-7. Wildlife Board designations of Infested Waters.

- (1) The Wildlife Board may designate a geographic area, water body, facility, or water supply system as Infested with Dreissena mussels pursuant to Sections 23-27-102 and 23-27-401 without taking the proposal to or receiving recommendations from the regional advisory councils.
- (2) The Wildlife Board may designate a particular water body, facility, or water supply system within the state as Infested with Dreissena mussels when sampling indicates the water body, facility, or water supply system meets the minimum criteria for an Infested Water as defined in this rule.
- (3) The Wildlife Board may designate a particular water body, facility, or water supply system outside the state as Infested with Dreissena mussels when it has credible evidence suggesting the presence of a Dreissena mussel in that water body, facility, or water supply system.
- (4) Where the number of Infested Waters in a particular area is numerous or growing, or where surveillance activities or infestation containment actions are deficient, the Wildlife Board may designate geographic areas as Infested with Dreissena mussels.
- (5) The following water bodies and geographic areas are classified as infested:
- (a) all coastal and inland waters in:
 - (i) California;
 - (ii) Nevada;
 - (iii) Arizona;
 - (iv) all states east of Montana, Wyoming, Colorado, and New Mexico;

- (v) the provinces of Ontario and Quebec Canada; and
- (vi) Mexico;
- (b) Lake Powell and that portion of the:
 - (i) Colorado River within the boundaries of Glen Canyon National Recreation Area;
 - (ii) Escalante River between Lake Powell and the Coyote Creek confluence;
 - (iii) Dirty Devil River between Lake Powell and the Highway 95 bridge; and
 - (iv) San Juan River between Lake Powell and Clay Hills Crossing; and
- (c) other waters established by the Wildlife Board and published on the DWR website.
- (6) The Wildlife Board may remove an infested classification if:
 - (a) the division samples the affected water body for seven (7) consecutive years without a single sampling event producing evidence sufficient to satisfy the criteria for a "suspected" classification, as defined in this rule; or
 - (b) the controlling entity eradicates all Dreissena mussels at the water body, facility, or water supply system through chemical or biological treatments, desiccation, or freezing, and the division verifies in writing that Dreissena mussels are no longer present.

R657-60-8. Closure Order for a Water Body, Facility, or Water Supply System.

- (1)(a) The division may classify a water body, facility, or water supply system as suspected or detected if it meets the minimum criteria for suspected or detected, as defined in this rule.
- (b) If the division classifies a water body, facility, or water supply system as either suspected or detected, the division director or designee may, with the concurrence of the executive director, issue an order closing the water body, facility, or water supply system to the introduction or removal of conveyances or equipment.
- (c) The director shall consult with the controlling entity of the water body, facility, or water supply system when determining the scope, duration, level and type of closure that will be imposed in order to avoid or minimize disruption of economic and recreational activities.
- (d) A closure order may;
 - (i) close the water entirely to conveyances and equipment;

- (ii) authorize the introduction and removal of conveyances and equipment subject to the decontamination requirements in Subsection R657-60-2(2)(b) and Section R657-60-5; or
- (iii) impose any other condition or restriction necessary to prevent the movement of Dreissena mussels into or out of the subject water.
- (iv) a closure order may not restrict the flow of water without the approval of the controlling entity.

(2)(a) A closure order issued pursuant to Subsection (1) shall be in writing and identify the:

- (i) water body, facility, or water supply system subject to the closure order;
- (ii) nature and scope of the closure or restrictions;
- (iii) reasons for the closure or restrictions;
- (iv) conditions upon which the order may be terminated or modified; and
- (v) sources for receiving updated information on the presence of Dreissena mussels and closure order.

(b) The closure order shall be mailed, electronically transmitted, or hand delivered to:

- (i) the controlling entity of the water body, facility, or water supply system; and
- (ii) any governmental agency or private entity known to have economic, political, or recreational interests significantly impacted by the closure order; and
- (iii) any person or entity requesting a copy of the order.

(c) The closure order or its substance shall further be:

- (i) posted on the division's web page; and
- (ii) published in a newspaper of general circulation in the state of Utah or the affected area.

(3)(a) If a closure order lasts longer than seven days, the division shall provide the controlling entity and post on its web page a written update every ten days on its efforts to address the Dreissena mussel infestation.

(b) The ten-day update notice cycle will continue for the duration of the closure order.

(4)(a) Notwithstanding the closure authority in Subsection (1), the division may not unilaterally close or restrict a suspected or detected water supply system where the controlling entity has prepared and implemented a control plan in cooperation with the division that effectively controls the spread of Dreissena mussels from the water supply system.

(b) The control plan shall comply with the requirements in Section R657-60-9.

- (5) Except as authorized by the Division in writing, a person may not violate any provision of a closure order.
- (6) A closure order or control plan shall remain effective so long as the water body, water supply system, or facility remains classified as suspected or detected.
- (7) The director or his designee may remove a Suspected classification if:
- (a) the division samples the affected water body for three (3) consecutive years without a single sampling event producing evidence sufficient to satisfy the criteria for a "suspected" classification, as defined in this rule; or
 - (b) the controlling entity eradicates all Dreissena mussels at the water body, facility, or water supply system through chemical or biological treatments, desiccation, or freezing, and the division verifies that Dreissena mussels are no longer present.
- (8) The director or his designee may remove a detected classification if:
- (a) the division samples the affected water body for five (5) consecutive years without a single sampling event producing evidence sufficient to satisfy the criteria for a "suspected" classification, as defined in this rule; or
 - (b) the controlling entity eradicates all Dreissena mussels at the water body, facility, or water supply system through chemical or biological treatments, desiccation, or freezing, and the division verifies that Dreissena mussels are no longer present.

R657-60-9. Control plan required.

- (1) The controlling entity of a water body, facility, or water supply system may develop and implement a control plan in cooperation with the division prior to infestation designed to:
- (a) avoid the infestation of Dreissena mussels; and
 - (b) control or eradicate an infestation of Dreissena mussels that might occur in the future.
- (2) A pre-infestation control plan developed consistent with the requirements in Subsection (3) and approved by the division will eliminate or minimize the duration and impact of a closure order issued pursuant to Sections 23-27-303 and R657-60-8.
- (3) If a water body, facility, or water supply system within the state is classified as infested, detected, or suspected, and it does not have an approved control plan, the controlling entity shall cooperate with the division in developing and implementing a control plan to address the:
- (a) scope and extent of the presence of Dreissena mussels;
 - (b) actions proposed to control the pathways of spread of Dreissena mussels;

- (c) actions proposed to control the spread or eradicate the presence of Dreissena mussels;
 - (d) methods to decontaminate the water body, facility, or water supply system, if possible;
 - (e) actions required to systematically monitor the presence of Dreissena mussels; and
 - (f) requirements and methods to update and revise the plan with scientific advances.
- (4) All control plans prepared pursuant to Subsection (3) shall be approved by the Division before implementation.
- (5) A control plan prepared pursuant to this Section may require that all conveyances and equipment entering or leaving the subject water to comply with the decontamination requirements in Subsection R657-60-2(2)(b) and Section R657-60-5.
- (6) Except as authorized by the Division and the controlling entity in writing, a person may not violate any provision of a control plan.

R657-60-10. Procedure for Establishing a Memorandum of Understanding with the Utah Department of Transportation.

- (1) The division director or designee shall negotiate an agreement with the Utah Department of Transportation for use of ports of entry for detection and interdiction of Dreissena Mussels illegally transported into and within the state. Both the Division of Wildlife Resources and the Department of Transportation must agree upon all aspects of Dreissena Mussel interdiction at ports of entry.
- (2) The Memorandum shall include the following:
- (a) methods and protocols for reimbursing the department for costs associated with Dreissena Mussel interdiction;
 - (b) identification of ports of entry suitable for interdiction operations;
 - (c) identification of locations at a specific port of entry suitable for interdiction operations;
 - (d) methods and protocols for disposing of wastewater associated with decontamination of equipment and conveyances;
 - (e) dates and time periods suitable for interdiction efforts at specific ports of entry;
 - (f) signage notifying motorists of the vehicles that must stop at the port of entry for inspection;
 - (g) priorities of use during congested periods between the department's port responsibilities and the division's interdiction activities;

- (h) methods for determining the length, location and dates of interdiction;
- (i) training responsibilities for personnel involved in interdiction activities;
- and
- (j) methods for division regional personnel to establish interdiction efforts at ports within each region.

R657-60-11. Conveyance or Equipment Detainment.

- (1) To eradicate and prevent the infestation of a Dreissena mussel, the division may:
 - (a) temporarily stop, detain, inspect, quarantine, and impound a conveyance or equipment that the division reasonably believes is in violation of Sections 23-27-201, 23-27-306, or R657-60-5;
 - (b) order a person to decontaminate a conveyance or equipment that the division reasonably believes is in violation of Sections 23-27-201, 23-27-306, or R657-60-5.
- (2) The division, a port-of-entry agent or a peace officer may detain, quarantine, or impound a conveyance or equipment if:
 - (a) the division, agent, or peace officer reasonably believes that the person transporting the conveyance or equipment is in violation of Sections 23-27-201, 23-27-306, or R657-60-5.
- (3) The detainment, quarantine, or impoundment authorized by Subsection (2) may continue for:
 - (a) up to five days; or
 - (b) the period of time necessary to:
 - (i) decontaminate the conveyance or equipment; and
 - (ii) ensure that a Dreissena mussel is not living on or in the conveyance or equipment.

R657-60-12. Penalty for Violation.

- (1) Except as provided in Section 23-27-306, a violation of any provision of this rule is punishable as provided in Section 23-13-11.
- (2) A violation of any provision of a closure order issued under Section R657-60-8 or a control plan created under Section R657-60-9 is punishable as a criminal infraction as provided in Section 23-13-11.

R657-60-13. Inspection Stations.

- (1) Inspection stations may be established for administrative purposes to interdict the spread of Dreissena mussels consistent with Title 23, Chapter 27, Aquatic Invasive Species Act, and Rule R657-60.

(2) The Division may establish inspection stations at locations authorized under Section 23-27-301 where:

- (a) there is a high probability of intercepting conveyances or equipment transporting *Dreissena* mussels;
- (b) there is typically a high level of boat and trailer traffic; or
- (c) inspection of conveyances or equipment will provide increased protection against the introduction of *Dreissena* mussels into a water body that is not classified as infested, suspected, or detected under Section R657-60-2.

(3) Inspection stations shall have adequate space for conveyances or equipment to be stopped, inspected, and if necessary, decontaminated, without interfering with the public's use of highways or presenting a safety risk to the public.

(4) Inspection stations shall have adequate signage providing the public:

- (a) notice that the inspection station is open and operational;
- (b) notice that all persons transporting conveyances or equipment must stop at the inspection station and submit their conveyance and equipment for inspection; and
- (c) an adequate opportunity to safely stop at the inspection station.

(5) Any person transporting a conveyance or equipment is required to stop at an inspection station during its hours of operation and submit that conveyance or equipment to the Division for inspection.

(6) The Division shall conduct an inspection of a conveyance or equipment that is stopped at an inspection station as follows:

(a) Division personnel will determine whether the conveyance or equipment has been in an infested, suspected, or detected water body within the past 30 days.

(b) If the conveyance or equipment has not been in an infested, suspected, or detected water body within the past 30 days, the Division will:

- (i) conduct a brief visual inspection of the conveyance or equipment to ensure that there are no visible *Dreissena* mussels;
- (ii) provide educational materials regarding aquatic invasive species risks and regulations in Utah; and
- (iii) provide a certificate of inspection to the person in possession of the conveyance or equipment.

(c) If the conveyance or equipment has been in an infested, suspected, or detected water body within the past 30 days, the Division will:

- (i) verify all water is drained from the conveyance or equipment, including water held in ballast tanks, bilges, livewells, motors, and other areas of containment;

(ii) verify that the surface of the conveyance or equipment is free of Dreissena mussels, shelled organisms, fish, plants, and mud; and
(iii) verify that the conveyance or equipment has been or will be decontaminated as defined in Subsection R657-60-2(b) before launching in a Utah water body.

(d) The Division may require professional decontamination of conveyances or equipment that have been in an infested, suspected, or detected water within the past 30 days and failed to comply with the draining and cleaning requirements established in Subsection R657-60-5(3).

(7) The Division may issue a certification of inspection and decontamination to persons who complete inspections and any applicable decontamination at an inspection station.

(8) Inspection stations shall be operated in a manner that minimizes the length of time of an inspection while ensuring that conveyances are free from the presence of Dreissena mussels.